

REMARKS

Applicant expressly traverses each rejection made in the Action and respectfully requests reconsideration in light of the comments provided herein. Claims 1-36 were pending in this application. Claims 1-7, 9-11, 13, 16, 18-20, 22-24, 29, 31-32, and 35-36 have been amended. Claims 37-38 are new. Support for the new claims can be found throughout the specification and originally filed claims (e.g., Page 3, lines 5-15, Page 4, lines 20-31). Accordingly, no new matter has been introduced by these amendments. Upon entry of the above-referenced amendments, Claims 1-38 are presented for further examination.

Discussion of Claim Rejections Under 35 U.S.C. § 112

Claims 1-36 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Particularly, the Action objects to the language “classification and/or localization”, “localizing and/or classifying a three dimensional object”, and “and/or circular segments” (Office Action, Page 2, paragraphs 2-3).

This language, particularly the recitation of alternatives, has been removed from the claims and the rejection is therefore moot. Applicant notes in passing, however, that adequate support is provided for “circular segments” at paragraph [0185] which discloses each of “. . . concave corner, convex corner, straight segment, and/or circular segments as possible curvatures that are useful for defining primitives.”

The Action also rejects Claim 1 as the phrase “such as” is indefinite. This language has been removed from the claims and the rejection is therefore moot as well.

Discussion of Claim Rejections Under 35 U.S.C. § 101

Claims 1-36 stand rejected under 35 U.S.C. § 101 as not falling within one of the four statutory categories of invention. Claims 1 and 20 have been amended to recite “performing the following elements at least partially on at least one electronic device” thereby tying the claims to a particular machine. Claims 2-19, 21-36 overcome the rejection for at least the reason that they variously depend from Claims 1 and 20. Accordingly, Applicant requests withdrawal of the rejection.

Discussion of Claim Rejections Under 35 U.S.C. § 103(a)

Neither Minsky nor Candocia, Either Alone or in Combination, Render the Present Claims Obvious

Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minsky, D.E. et al. (Optimal boundary detection on grey-tone image, Pattern Recognition, vol. 30, No. 6, pp. 971-998, 1997 from IDS) in view of Candocia, Frank M. (Simultaneous Homographic and Compaparametric Alignment of Multiple Exposure-Adjusted Picture of the Same Scene, IEEE Transactions on Image Processing, Vol. 12, No. 12, December 2003, pp. 1485-1494, from IDS). Applicant respectfully requests withdrawal of the rejections for at least the reasons that 1) both Minsky and Candocia fail to disclose or suggest each feature of the claims, 2) the combination of the references would not provide a reasonable expectation of success that one skilled in the art would arrive at the presently claimed embodiments, and 3) there is no adequate motivation to combine the references.

1) The References Fail to Disclose or Suggest Each of the Claimed Elements

To establish a *prima facie* case of obviousness, the asserted reference (or references when combined) must disclose all of the features of the claims: "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970); *see also* M.P.E.P. § 2143.03. That is, the prior art must teach or suggest, directly or inherently, all the claim limitations. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). As both Minsky and Candocia fail to disclose or suggest at least the elements "each feature comprising a set of primitives" of Claims 1 and 20, and "determining the primitives in a two dimensional digital image of an object" of Claim 20, they cannot render the above claims obvious.

The Action asserts that Minsky ("page 972, Col. 1, classification feature and col. 2, finding a boundary in feature space all referred to identifying features" Action page 5) discloses "identifying features, being predefined sets of primitives" as recited in Claim 1 prior to the

present amendment (Action Page 5). However, Minsky (Col. 1, page 971) instead discloses "Pixel classification methods are based on an analysis of chosen parameters of each element (including the parameters of its neighbourhood) in feature space." Minsky's use of the term "feature space" refers to the mathematical "space" (akin to the vector space of linear algebra) of quantitative image properties upon which classification is performed. For example, Minsky discloses that p^* may comprise an "additional feature" which is defined as "the maximal joint probability of an unknown line present in an arc and in the formed trunk part" (Col. 1, page 990). While the "feature space" comprises a set of features, Minsky's features do not themselves comprise more primitive internal units for recognition. That is, Minsky's features therefore do not comprise a set of **primitive** objects used for classification. Accordingly, Minsky does not disclose "each feature comprising a set of primitives" as recited in amended Claims 1 and 20.

Neither does Candocia disclose "each feature comprising a set of primitives." Candocia is directed to simultaneously aligning "multiple exposure-adjusted pictures of the same scene both in their spatial coordinates, as well as, in their pixel values" (Abstract). The use of features for recognition, let alone features comprising sets of primitives, is never discussed (indeed, Candocia describes his system as "featureless", Abstract). Accordingly, the combination of Minsky with Candocia still fails to disclose or suggest "each feature comprising a set of primitives" as recited in amended Claims 1 and 20.

Furthermore, as neither Minsky nor Candocia is directed to object recognition, neither reference discloses the elements "recognition of objects" found in Claims 1 and 20, nor "storing in the database" found in Claim 20. Minsky is rather concerned with "boundary detection" and accordingly makes no reference to training data ("there is no *a priori* information about the average brightness of the objects, the type and parameters of noise density distribution functions, the shapes of the objects or the boundary length", Abstract). Accordingly at no point does Minsky disclose recognizing a previously identified object of interest after performing boundary detection, nor storing training data in a database for subsequent recognition. Similarly, Candocia is concerned with alignment of "multiple exposure-adjusted pictures" (Abstract). Candocia therefore discloses neither object recognition nor the storing of training data.

2) The Combination of the References Would Not Provide a Reasonable Expectation of Success that One Skilled in the Art Would Arrive at the Presently Claimed Embodiments

Applicant further asserts that there would be no reasonable expectation that one skilled in the art would combine the references to achieve the recited claimed features. "A rationale to support a conclusion that a claim would have been obvious is **that all the claimed elements** were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded nothing more than predictable results to one of ordinary skill in the art." (emphasis added, MPEP 2143.02 citing KSR International Co. v. Teleflex Inc., 82 USPQ2d 1385, 1395 (2007)).

As neither Minsky nor Candocia disclose or suggest at least "each feature comprising a set of primitives" and "recognition of objects", one skilled in the art would have no reason to include these elements in the combined product. Accordingly, it would be unreasonable to expect the resultant combination to successfully create the claimed subject matter. In view of the above, Applicant respectfully requests withdrawal of the rejections of Claims 1 and 20.

3) There is No Adequate Motivation to Combine the References

As discussed above, the combination of the references fails to disclose or suggest certain claim elements. Applicant additionally notes that neither has an adequate reason or motivation for one skilled in the art to combine the references been presented. For example, Minsky does not disclose or suggest further analysis of the contours for determining contour primitives. Candocia is likewise directed to a featureless method. Accordingly, neither reference would motivate one skilled in the art to modify Minsky or Candocia so as to derive features based on the primitives from images, where a primitive is a point on, a segment of, or an area enclosed by, a contour of one of the images.

Applicants respectfully request withdrawal of the rejections of Claims 1 and 20 for the reasons discussed above. Claims 2-19, 21-36 overcome the rejection for at least the reason that they variously depend from Claims 1 and 20. Accordingly, Applicant requests withdrawal of their rejection as well.

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No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. **11-1410**.

Respectfully submitted,

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